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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,505

09/16/2003

Shinji Imada

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EXAMINER

LIU, LIN

ART UNIT

PAPER NUMBER

2621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/29/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/664,505

Applicant(s)

IMADA, SHINJI

Examiner

Lin Liu

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/16/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/17/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The information disclosure statement (I.D.S) filed on August 17, 2004 is considered.

Specification Objection

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent; published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 11 are rejected under 35 U.S.C 102 (b) as being anticipated by

Washisu (Patent no.: 6,091,448)

Consider **claim 1**, Washisu teaches a camera which takes images through an image-taking optical system (col. 17, lines 23-28) including a shake correction unit (fig. 15 hand shake sensor GR, col. 17, lines 41-44) which drives a part of the image-taking optical system (col. 17, lines 45-54, noted that the blur compensation is done by shifting of the lens in correspondence with the hand shake information from the hand

Art Unit: 2621

shake sensor GR) to correct image blur caused by camera shake (col. 17, lines 51-54, noted that the blur caused by the hand shake can be compensated), comprising: an image-pickup device (fig. 15, FP, the image pickup element) which photoelectrically converts an object image formed by the image-taking optical system, and a control circuit (fig. 15, CCPU) which controls operations (col. 16, lines 16-25, noted that CCPU performs a series of operations of the camera) of the camera, wherein the control circuit changes the sensitivity (col. 20 lines 37-49, noted the aperture value is calculated, the size of aperture is used in determining the sensitivity) and the exposure time (col. 20 lines 37-49, noted the shutter speed value is calculated, the shutter speed value is used in determining the exposure time) of the image-pickup device whether the shake correction unit is in operation or not.

Consider **claim 11**, Washisu teaches camera system, comprising a camera according to claim 1, and a lens apparatus (col. 16, lines 12-14, lens LNS) including a shake correction unit (fig. 5A, angular velocity sensor 11) to be attached (col. 16, lines 12-14, noted that the lens is detachable from the camera body) to the camera.

5. Claims 1 and 11 are rejected under 35 U.S.C 102 (e) as being anticipated by **Ishikawa (Pub. No.: 2002/0196347 A1)**.

Consider **claim 1**, Ishikawa teaches a camera which takes images through an image-taking optical system (page 5, paragraph 95, noted that the image taking optical system is formed with 4 groups lens) including a shake correction unit (fig. 3 vibration detection circuit 304) which drives a part of the image-taking optical system to correct

Art Unit: 2621

image blur caused by camera shake (page 6, paragraph 127, noted that vibration detection circuit 304 detects vibrations occurred by hand shake in the pitch and yaw directions of the lens apparatus 20), comprising: an image-pickup device (fig. 1 image pickup device 31) which photoelectrically converts an object image formed by the image-taking optical system (page 6, paragraph 116), and a control circuit (fig. 3 camera CPU 201) which controls operations of the camera (page 7, paragraph 131), wherein the control circuit (201) changes the sensitivity (col. 8 paragraph 8, noted that the aperture stop circuit drives the diaphragm, by changing the opening of the diaphragm also changes the sensitivity of image pick-up device) and the exposure time (page 7, paragraph 139, noted the exposure amount is determined by photometry circuit 205 and range finding circuit 206, which are controlled by the camera CPU 201) of the image-pickup device (31) whether the shake correction unit is in operation or not.

Consider **claim 11**, Ishikawa a camera system, comprising a camera according to claim 1, and a lens apparatus (fig. 1 lens apparatus 20, and fig. 3 300 is the internal detail structure of lens apparatus) including a shake correction unit (304) to be attached (page 7, paragraph 131, noted that the lens apparatus 20 is mounted to the camera body 30) to the camera.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2621

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 4 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Washisu (Patent no.: 6,091,448) as applied to claim 1 above, and in view of Takahashi (2002/0080247 A1) and Hamamura (2003/0133021).

With respect to claim 2, Washisu teaches all the claimed limitation with the exception that he does not explicitly teach the camera according to claim 1, wherein the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer when the shake correction unit is in operation than when the shake correction unit is not in operation.

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of lowering the sensitivity of the image-pickup device as taught by Takahashi in Washisu's device in order to obtain an optimum exposure (page 5, paragraph 5, noted that based on the luminance signal an optimum exposure can be obtained by varying the iris drive circuit).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not explicitly teach all the control circuit sets the exposure time of the image-pickup device to be longer.

In the same field of endeavor, Hamamura teaches the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of lengthen the exposure time by decreasing the shutter speed as taught by Hamamura in the combined modified device of Washisu and Takahashi in order to avoid the image blur caused by hand vibration (page 2, paragraph 29, noted that the exposure time is set longer than the hand vibration time limit).

With respect to **claim 4**, Washisu teaches the camera according to claim 2, wherein when the shake correction unit (fig. 15 hand shake sensor GR, col. 17, lines 41-44) is in operation (col. 18, lines 12-17, noted that when the changeover button BTLS is depressed, the image blur compensation is turned on) and the amplitude of the shake detected by a shake detection unit (fig. 15 hand shake sensor GR, col. 17) which detects shake is equal to or lower than a predetermined value (col. 8, lines 62-63, the amplitude of the blur angular velocity is compared with the reference range).

However, Washisu does not explicitly teaches the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that

when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not explicitly teach all the control circuit sets the exposure time of the image-pickup device to be longer.

In the same field of endeavor, Hamamura teaches the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

With respect to **claim 5**, Washisu teaches the camera according to claim 2, further comprising a mode setting unit (fig. 16, mode dial DLMOD) which selectively sets an image-taking mode (col. 18, lines 42-50, noted that the mode dial allows the user to switch photograph taking mode), wherein when the shake correction unit is in operation (col. 18, lines 12-17, noted that when the changeover button BTLS is depressed, the image blur compensation is turned on) and a predetermined image-taking mode is set by the mode setting unit (col. 18, lines 2-7, noted that when the dial is switched to the photographing mode by the user, the predetermined mode is set to photograph taking mode when user turned on the camera).

However, Washisu does not explicitly teaches the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that

Art Unit: 2621

when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not explicitly teach all the control circuit sets the exposure time of the image-pickup device to be longer.

In the same field of endeavor, Hamamura teaches the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

8. Claims **3 and 6-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Washisu (Patent no.: 6,091,448)** as applied to claim 1 above, and in view of **Takahashi (2002/0080247 A1)** and **Hamamura (2003/0133021)** and further in view of **Kaneda (US 6,246,437 B1)**.

With respect to **claim 3**, Washisu teaches the camera according to claim 2, further comprising a photometric unit (fig. 15, photometry means AESNS) which measures a luminance of the object (col. 20, lines 17-19, noted that it measures an object luminance), and a shake correction unit (fig. 15 hand shake sensor GR, col. 17, lines 41-44) is in operation (col. 18, lines 12-17, noted that when the changeover button BTLS is depressed, the image blur compensation is turned on).

However, Washisu does not explicitly teach that **the difference between a luminance of the main object obtained from the photometric unit and the luminance of a bright region other than the main object is equal to or lower than**

a predetermined value, the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not teach **the difference between a luminance of the main object obtained from the photometric unit and the luminance of a bright region other than the main object is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Kaneda teaches calculating the difference of luminance of the main object and the luminance of a bright region (col. 8, lines 32-34, noted that the method of utilizing the difference in luminance between the background and the object).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of calculation of the difference of luminance of the main object and the luminance of a bright region as taught by Kaneda

Art Unit: 2621

in the combined modified device of Washisu and Takahashi in order to detect the area of movement from the difference in images (col. 8, lines 35-36).

The combined modified device of Washisu, Takahashi and Kaneda teaches all the claimed limitation with the exception that they do not teach **checking the difference of luminance is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Hamamura teaches checking the measured luminance is equal to or lower than a predetermined value (page 4, paragraph 46, noted that the luminance is checked against with a predetermined value), the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of comparing the measured luminance with a predetermined value as taught by Hamamura in the combined modified device of Washisu, Takahashi, and Kaneda in order to detect the brightness of the image and determine if flash is needed to take the image (page 4, paragraph 46, noted that the measured luminance value is condition in determining on/off for flash).

Consider **claim 6**, Washisu teaches the camera according to claim 3, further comprising a determination unit (fig. 15, FMTR) which determines (col. 17, noted that

Art Unit: 2621

FMTR performs focusing operation by moving the lens in the optical axis direction corresponding to the object distance) the main object in an image-taking region.

With respect to **claim 7**, Washisu teaches the camera according to claim 3, wherein when the shake correction unit is in operation (col. 18, lines 12-17, noted that when the changeover button BTLS is depressed, the image blur compensation is turned on), and the amplitude of the camera shake detected by a shake detection unit (fig. 15 hand shake sensor GR, col. 17) which detects shake is equal to or lower than a predetermined value (col. 8, lines 62-63, the amplitude of the blur angular velocity is compared with the reference range).

However, Washisu does not explicitly teach that **the difference between a luminance of the main object obtained from the photometric unit and the luminance of a bright region other than the main object is equal to or lower than a predetermined value, the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not teach **the difference between a luminance of the main object obtained from the photometric unit and the**

luminance of a bright region other than the main object is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.

In the same field of endeavor, Kaneda teaches calculating the difference of luminance of the main object and the luminance of a bright region (col. 8, lines 32-34, noted that the method of utilizing the difference in luminance between the background and the object).

The combined modified device of Washisu, Takahashi and Kaneda teaches all the claimed limitation with the exception that they do not teach **checking the difference of luminance is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Hamamura teaches checking the measured luminance is equal to or lower than a predetermined value (page 4, paragraph 46, noted that the luminance is checked against with a predetermined value), the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

With respect to **claim 8**, Washisu teaches the camera according to claim 3, further comprising a mode setting unit (fig. 16, mode dial DLMOD) which selectively sets an image-taking mode (col. 18, lines 42-50, noted that the mode dial allows the

Art Unit: 2621

user to switch photograph taking mode), wherein when the shake correction unit is in operation (col. 18, lines 12-17, noted that when the changeover button BTLS is depressed, the image blur compensation is turned on).

However, Washisu does not explicitly teach that **the difference between a luminance of the main object obtained from the photometric unit and the luminance of a bright region other than the main object is equal to or lower than a predetermined value, the control circuit sets the sensitivity of the image-pickup device to be lower and the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Takahashi teaches the control circuit sets the sensitivity of the image-pickup device to be lower (page 4, paragraph 67-68, noted that when the exposure is excessive the system control circuit reduces the aperture of iris, thus also reducing the size of the opening and also reducing the sensitivity).

The combined modified device of Washisu and Takahashi teaches all the claimed limitation with the exception that they do not teach **the difference between a luminance of the main object obtained from the photometric unit and the luminance of a bright region other than the main object is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Kaneda teaches calculating the difference of luminance of the main object and the luminance of a bright region (col. 8, lines 32-34,

Art Unit: 2621

noted that the method of utilizing the difference in luminance between the background and the object).

The combined modified device of Washisu, Takahashi and Kaneda teaches all the claimed limitation with the exception that they do not teach **checking the difference of luminance is equal to or lower than a predetermined value, the control circuit sets the exposure time of the image-pickup device to be longer than when the shake correction unit is not in operation.**

In the same field of endeavor, Hamamura teaches checking the measured luminance is equal to or lower than a predetermined value (page 4, paragraph 46, noted that the luminance is checked against with a predetermined value), the control circuit sets the exposure time of the image-pickup device to be longer (page 2, paragraph 29, noted that the exposure time setting unit sets the exposure time of CCD to be longer).

Consider **claim 9**, Washisu teaches the camera according to claim 8, wherein the predetermined image-taking mode is an image-taking mode (col. 18, lines 2-7, noted that when the dial is switched to the photographing mode by the user, the predetermined mode is set to photograph taking mode when user turned on the camera) other than an image-taking mode for taking an image of a moving object (fig. 17, sport mode) and a shutter speed priority mode (fig. 17, shutter priority AE mode).

Consider **claim 10**, Washisu teaches a camera according to claim 8, wherein the predetermined image-taking mode includes a full-automatic image-taking mode (col.

Art Unit: 2621

18, lines 42-50, noted that when the dial is switched to full automatic mode by user, the predetermined mode is set to full automatic when the camera is turned on).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Soeda discloses a movie camera having still picture photographing function and method of photographing still picture therewith in patent no.: US 5,382,974. Washisu discloses an image blur prevention apparatus in patent no.: US 5,608,703. Imafuji discloses a camera having anti-vibration function in patent no.: US 5,585,875. Sato discloses an apparatus and system for correction based upon detection a camera shaking in patent no.: US 6,930,708. Hata discloses a method, system, and computer readable medium for controlling a digital camera to avoid blurring of a photograph in patent no.: US 6,603,508. Imai discloses a electronic still camera with imaging operation performed in parallel with camera shake detection in patent no.: US 6,816,188. Hamada discloses a camera capable of correcting camera-shake in patent no.: 6,181,875.

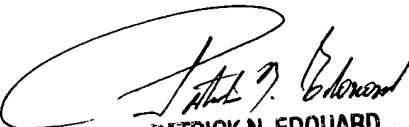
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Liu whose telephone number is (571) 270-1447. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

L.Liu
12/15/06



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